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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Region 6
P.O.Box 3623,Portland,Oregon 97208

November 12, 1974

REPLY TO: 5200 Insect and Disease Control

SUBJECT: Functional Assistance Trip to Bear Springs Ranger District, Mt. Hood National Forest

TO: F.J. Kopecky, DRF, S&PF

I thought Joe said there wasn't any urgency! See pg 2

On September 20, 1974, Dick Whitmore, Bear Springs District Technician, and I examined three salvage logging units in T. 4-5 N., R. 9-10 E., sections 1, 6, 7 and 36 directly northwest of Clear Creek crossing in the White River drainage.

The salvage units designated as Dendroc 1-3 were laid out and logged in 1973 after "red top" trees presumably caused by the Douglas-fir beetle, *Dendroctonus pseudotsugae* Hopk., began appearing in noticeable numbers. With the removal of the marked trees, consisting primarily of current mortality and older dead, the District Small Sales Administrator assumed that the beetle problem had been solved. However, additional numbers of new faders were noticed again this summer and salvage logging is once again in progress within and adjacent to these same units.

switcharoo in 1973 Dendrocts in 1974

The purpose of this visit, initiated at the request of the Supervisor's Office, was to determine the extent and probable cause of the beetle activity and to provide assistance that would be useful in solving the problem.

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The results of this examination indicate that the initial build up of beetle populations occured in very light, scattered blowdown resulting from localized winds occurring in late 1971. The date at which this storm occurred was not recorded. However, the year was surmised on the basis of the current and recent past mortality.

It was noted that beetle activity is still occurring within these units. Besides the highly visible "red top" trees that were killed as a result of 1973 attacks, we found a large number of green infested trees in each unit.

The distribution of these green infested trees strongly suggests that they were attacked by beetles emerging from nearby "red top" brood trees. Without exception, the green infested trees were found within a 50 foot radius of one or more recent faders, which had been green infested in 1973.

These infested green trees contained the majority of the bark beetle broods that emerged this spring and attacked the adjacent standing Douglas-fir.

The continuation of this activity is quite probably a direct result of the District's failure to recognize and remove the green infested trees along with the more conspicuous red top and older dead trees.

Newly attacked green trees can be easily overlooked during the marking phase of a salvage logging operation, because they appear superficially normal in appearance. The foliage usually remains a normal green color until the following year, the bark is intact and there are usually no visible pitch tubes in the bark crevices, such as are formed on many other tree species which have been attacked by bark beetles.

The most positive sign that a Douglas-fir has been successfully attacked is the presence of reddish-orange boring dust or "frass" in bark crevices or around the base of the tree. However, each tree must be closely and thoroughly examined because much of this evidence is often removed by wind or rain and because attacks, often occurring near mid-bole, result in only light accumulations of boring dust.

In addition, infested trees sometime exude large amounts of clear resin from attacks made high on the stem. Therefore, any trees with visible clear flowing streams of resin on the mid- or upper-bole should be closely examined for signs of boring dust.

This indicator should never, by itself, be considered positive proof that a tree has been successfully attacked. Resin flow may often indicate that the tree has pitched out or repelled a beetle attack. In addition, resin flow may be initiated by many causes other than beetle attack.

In order to prevent additional mortality from occurring, it will be necessary to remove all the green infested trees from the woods by May 1, 1975. In addition, it would be advisable to burn or remove the bark from concentrations of slash or cull material longer than 24 inches in diameter and 4 feet in length. Short chunks, because they dry rapidly, do not provide suitable habitat for brood development.

The best time to accomplish the additional tree marking would be after the summer attacks have been completed.

The Douglas-fir beetle has one generation per year, with some individuals making more than one gallery. These additional egg galleries are often referred to as the "second" or summer attack.

In western Oregon the peak attack probably occurs in early June, with other smaller ones occurring from late July through early October. The principal factor influencing the spring flight is weather. The beetles will emerge any time after early May if the ambient air reaches 65-70 degrees Fahrenheit and remains at that temperature for 2 to 3 days.

Additional assistance, if requested, could be provided to familiarize field personnel with criteria used in selecting and marking green infested trees.

Donald J. Curtis

DONALD J. CURTIS
Entomologist

Approved 11/18/74
Date

By David A. Graham
DAVID A. GRAHAM
Director, Insect and Disease Control

cc: Mt. Hood N.F. (2)
Bear Springs R.D.
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